



Attributes of Trust in Clinicians and Patients Contentment; A Cross Sectional Study among People with High Blood Pressure in Ogoja and Obudu, Nigeria.

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ABSTRACT

Objective: The study investigated attributes of trust in clinicians and patients' contentment among people with hypertension (PLHPTH) in two urban areas in Cross-River State.

Methods: Cross-sectional survey design with words of mouth (WOM) was employed on 179 (PLHPTH) comprised of 72(40.2%) males and 107(59.8%) females were randomly sampled at their age-grade meeting venues (AGMV). Trust in Physician scale (TPS) was used as the patient satisfaction scale. Data were analyzed using SPSS-28.1 employing percentages, frequencies, independent sample t-test statistics, simple and multiple linear regression.

Results: Results indicated that the clinician trust attribute, Fidelity, positively affected patients' contentment ($\beta = 0.199$, $t = 18.00$, 2.692 , $p < .001$). The second hypotheses result shows that Clinician trust attribute Competence had a positive effect on patients' contentment ($\beta = -0.125$, $t = 34.217$, -1.683 , $p < .001$). The third hypothesis showed that attribute of Confidentiality had a positive effect on patients' contentment ($\beta = 0.5744$, $t = -79.864$, 9.327 , $p < .001$). Honesty had ($\beta = -536$, $t = 43.394$, -8.440 , $p < .001$). Patients' contentment was found to be positively related to health outcome ($\beta = 0.696$, $t = 8.083$, 12.882 , $p < .001$).

Conclusion: The study found that clinicians' attributes of trust had a statistically significant effect on people living with hypertension in both Ogoja and Obudu communities of cross river state. The study results will assist clinicians, especially doctors, in understanding that patients in urban and suburban communities diagnosed with hypertension only come back for the checkup appointment when there see a physician present with those attributes of trust.

Practical implication: These findings may shape clinicians' patient -relationships by validating the pursuit of trusting behaviors during medical encounters to maximize effect.

Keywords: Trust attributes, patients' contentment, health outcome, Clinicians, High blood pressure, Nigeria.

Introduction

Cardiovascular and kidney disease worldwide is predicated on hypertension (Jneid et al., 2018). Research indicates that 53 % of people diagnosed with hypertension worldwide remains uncontrolled, leading to about 9.8 million deaths from hypertension (WHO,2018). In Nigeria, a systematic review carried out in 2018 put a prevalence rate of 31.2% (men 2.55 female 31.2%) diagnosed with hypertension. The number of Nigerians in rural and suburban communities with hypertension have increased exponentially despite a series of intervention measures both at the governmental level, individual, organizations and communities directed at educating members of the society about the ill effect of hypertension (WHO 2018, Ogah, Okpechi, Chukwuonye et al. 2017).

One among other major intervention strategies is in hospitals where clinicians follow guidelines such as providing advice on lifestyle modification, effective non-pharmacological intervention, and possibly initiating antihypertension drugs for people with sustained systolic BP (SBP) 160mmHg or sustained diastolic (DBP) 100mmHg. In communities, interventions such as creating awareness of the disease signs and symptoms., education on measures centered on continual treatment and visits to the clinicians, and behavior change by individuals in their various communities. Among all intervention measures, rational use of hypertension drugs is critical in achieving regular and continual blood pressure (William et al., 2004; WHO, 2018).

Non-adherence to medication, advice and continual disease monitoring has led to increasing cases of sudden death syndrome in most communities in cross river, Obudu and Ogoja in particular. The non-adherence to medical advice could be attributed to many causes, but what appears prominent is patients' loss of trust in their clinicians and prescribed medication (Van de Vijver, Akinyi, Oti et al. 2014; Adeloje et al. et al. 2015). Effective and continual treatment can only occur in an environment of trust which is fundamental to the relationship between doctors and patients. Clinicians' trust

attributes play a significant role in confidence building and provide internal latitude for attitude change by patients towards hypertension treatment and outcome. Clinician attributes of trust encourage patients to use hospitals and facilitate openness of critical medical information, directly influencing treatment outcomes (Van de Vijver, Akinyi, Oti et al. 2014; Chen et al. 2020).

Patient trust is forward-looking and vital in a relationship which is centered on the nature of the interaction between patients and healthcare providers. It is an essential element of care clients are believed to have, which convinces them that the healthcare system will provide the best care to bring their health to order. One of the essential factors in healthcare improvement is patients' trust in providers, which significantly impacts patients' behavior and treatment outcomes, especially those of people living with hypertension (Jneid et al. et al., 2018; WHO, 2018). Patients who come to the hospital for treatment are physically, emotionally, and economically vulnerable. The trust patients have on clinicians is what enables them give power to clinicians to investigate and treat to achieve good health. Trust in clinicians allows patients to provide private information, which is essential for treatment and healing, and it is one of the forefront prerequisites for seeking care (Rhodes & Strain, 2000; Mechanic & Schlesinger, 1996; Brody, 1992).

Trust is very cardinal for patients and clinicians to progress in the treatment process. Consents, physical examination, health history, medication, test, and advice are premised on Trust (Goold, 2002). The medical profession, especially Physicians, Nursing, and psychotherapist codes of practice, is based fundamentally on Trust (Goold, 2002; Birkhauer et al., 2017). Patients' trust represents patients' views that providers are responsible, caring, competent and will morally do what is right. It entails confidentiality and accountability and is an indicator of excellent therapeutic relationship (Rhodes & Strain, 2000; Brody, 1992). Trustful relationships between patients and providers can lead to treatment compliance, behavior change, and an increase in the patient's recovery rate and positive health outcomes

(Cirhinlioghu, Sosyolojisi et al., 2018; Goold, 2002).

Trust in healthcare providers accelerates positive communication, reduces treatment costs, promotes continuity, improves effectiveness, and efficiency with positive treatment outcomes and contentment (Platonova et al., 2008; Schildmann et al., 2013). Trust collectively represents patients' expectations from providers (Doctors, nurses, physiotherapists, pharmacists, and others) which also represent assurance and reassurance. It is an unwritten contract between patients and providers, especially doctors (Nelms et al., 2014; Gilson, 2003). Trust is an essential component of care and a crucial relationship between clinicians and patients, and it dramatically impacts patients' contentment. It is judgement in situations of risk, where there is uncertainty, and the trustee is vulnerable. It is patients' sincere conviction that doctors, and nurses have the required skills for diagnosis and treatment in the interest of patients so that patients accept medication and services confidently (Gilson, 2003).

Confidence in the treatment received builds a platform which enhances patients' contentment. Patient contentment is multidimensional, which explains patients' experience, expectations and feeling about care received from providers. It represents features such as doctors' competence, infrastructure, the relationship between providers and patients and the general environment of care (Khademnezhad, 2006; Greene & Ramos, 2021). Patient contentment evaluates healthcare system performance and is an acceptable indicator of the quality of care (Dyer et al., 2016), which is predicated on many factors such as empathy, short waiting time, education and patient engagement, facility quality, good adequate toilets, and patients' perception of the relationship of Trust (Anderson & Dedrick, 1990; Yang & Wu, 2018).

In Nigeria, epically, Ogoja and Obudu cause of sudden death is usually linked to complications of hypertension (HPTN), which account for most of the admissions in our general hospitals. One in every four Nigerians is Hypertensive (Adeloye et al., 2021). Patients are usually discharged home on lifelong medication and do visit hospitals on appointment as at when due to see their doctors. Trust plays a crucial part after the diagnosis and constant reviews for patients to stay healthy. Various studies have examined hypertension in Nigeria (Van de Vijver, Akinyi, Oti et al., 2014; Adeloye et al. et al., 2015; Ogah et al. et al., 2012; Ekwunife & Aguwa, 2011). Unfortunately, only a few examined clinicians trust attributes and patients' contentment in the context of people living with hypertension, especially in Ogoja and Obudu. In this paper, therefore, our goal is to examine how trust attributes of clinician's impact patients' contentment with health outcomes among people living with hypertension in two suburban communities in Cross River State, Nigeria.

Research Gap and Significance

Most patient satisfaction studies in developing countries are conducted in the hospital wards, outpatient's department, clinics, or healthcare centers. Few are conducted online. Current research is carried out in the patient's community while socializing in various age-grade meetings. The research environment didn't need to be more clinical. The Data collection process also serves as an awareness creation platform for the deleterious effect of hypertension in our communities. Again, the research is used as relationship building with local communities, a crucial trust mechanism.

Research Model and Hypotheses

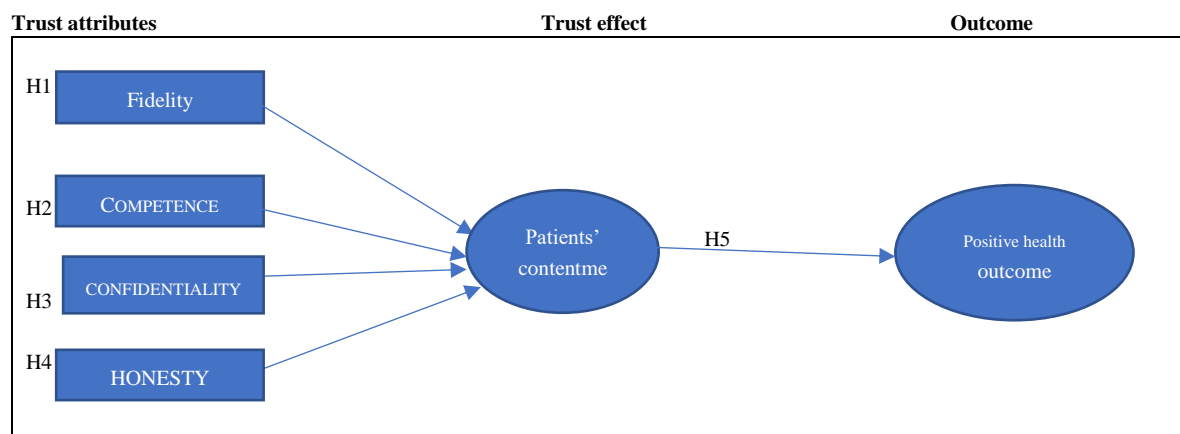
Trust in clinicians is crucial in patient-provider relationships, especially with people living with hypertension in their various communities. Conviction enables patients to keep to the doctors' advice, appointment dates, and compliance with medication. Different constructs and concepts can explain clinicians trust attributes. This cross-sectional study aimed to evaluate clinicians' trust attributes in the context of fidelity, competence, confidentiality, and honesty and how this affects patients' contentment and health outcome in two urban communities of cross-river states. The following objectives guided the study.

- a. Evaluate clinicians' trust attributes in the context of fidelity, competence, confidentiality, and honesty.
- b. Assess the effect of trust attributes on patients' contentment.
- c. Evaluate the impact of patients' contentment on health outcomes.

Trust in clinicians, especially physicians, is essential to patients' contentment with the care received. Patients trust that providers have the required skills for diagnosis and treatment, so that patients accept medication and advice is critical to patients' contentment (Yang & Wu, 2018). The study was guided by the following hypotheses.

Hypotheses

- H₀₁: Fidelity is positively related to patients' contentment
- H₀₂: Clinicians' competence would positively relate to patients' contentment
- H₀₃: Confidentiality would positively relate to patients' contentment
- H₀₄: Clinician honesty would have a positive effect on patients' contentment
- H₀₅: Patients' contentment is positively associated with positive health outcomes.



Source: work on bases of research results.

Fig 1.

Conceptual model of clinicians trusts attributes on patients' contentment

Methodology

Study population and setting

The study employed cross sectional design to evaluate clinicians trust attributes in two communities, in the northern cross-river state. The communities are Mbube in Ogoja and Obudu Urban in Obudu Local Government Area. This design was adopted because the sample was collected at specific points during age grade meetings in the two communities and respondents were recruited through word of mouth (Supratim and Sundara, 2016). The independent variable is clinician trust attributes, while patients' contentment is the dependent variable.

Sample size

Sample size for descriptive cross-sectional studies in cases of population whose size is unknown was used.

Were

n =sample size

N = population size

P : prevalence of study event

q : $1-p$

Z_{α} : when $\alpha=0.05$, the value in the Gaussian distribution is equal 1.96

I: Error tolerance (when it is 95%, its value is of 5%.

Research instrument

Primary data were collected using structured questions to draw information on demographic variables, age, sex, education, occupation, religion, and marital status. The second section was adapted to extract information on fidelity, which is one of the fundamental ethical principles that regulate medical practice, mandating doctors to put their patient's interests ahead of others, including their own (Roncoroni, 2000).

The third elicited information on clinicians' competence, the fourth section drew information on clinician confidentiality and the fifth evoked responses on the honesty of clinicians, which is one of the highly acceptable qualities of healthcare professionals, especially physicians (Zolkefli, 2018)

The sixth section draws information on patients' contentment, and finally, the seventh section elicits information on health outcomes, representing reported health behavior and experience with healthcare. It is the patient's voice, expressed to include physical health, emotional and sometimes symptoms burden (Cella et al. et al. 2015). The questions were coded into Likert scale to represent [SA]=5, [A]=4, [N]=3, [DA]=2, [SD]=1. The high scores represent a positive effect, while the low scores represent a negative effect. (Leisen and Hyman 2001).

RESULTS

Table 1. Reliability of questionnaire

Items	Cronbach Alpha Based on standardized Items.
Fidelity	0.7
Competence	0.7
Confidentiality	0.8
Honesty	0.8
Contentment	0.8
Health outcome	0.6

Source: work on bases of research results.

Reliability

Internal reliability of the instrument was carried out using **spss** for Cronbach alpha based on standardized items. For items listed in the questionnaire, the coefficient value should indicate above 0.7 degrees of consistency. A high value of 0.7-0.8 indicates stability (Hair et al., 2006; Cronbach, 1955). All variables' coefficient alpha was within acceptable boundaries of reliability.

External validity: The target sample population were people who identified that they were living with hypertension in their rural communities in Mbube in Ogoja LGA and Obudu urban in Obudu LGA. The respondents were guided while responding to the questionnaire, and the questions in each section were straightforward.

Internal validity: Adequate and appropriate statistical analytical tools were adopted. Data were analyzed using frequencies, means scores, standard deviation independent t-test, and simple and multiple linear regression

Construct validity: the instrument had questions centered on the variables of research interest. The construct was formulated to answer research questions.

STATISTICAL EXAMINATION

Response Rate.

A total of 179 patients were selected through random sampling techniques during meetings with respondents in their age grade Sunday meetings. All questionnaires were returned since the administration was on face-to-face bases with respondents who voluntarily presented to participate in the research at both Ogoja and Obudu. Communities.

Demographic and descriptive statistics.

The survey period lasted for six Sundays, collectively six weeks. The response and demographic variables are presented in Tables [2] below. (Gender, Age, marital status, Religion, and occupations). A total of 179 people leaving with hypertension comprising 72 (40.2%) male and 107 (59.8%) female. Their age ranges between 18-25 years (20.7%) and 51 above years (40.8%). Among them, 73 (40.8%) were married, 71 (39.9%) were single, and 35 (19.9%) were widowed. Concerning Religion, 106 (59.2%) were Christians, while 73(40.8%) were Muslim. Most of the respondents, 71(39.7%), were civil servants, while 35 (19.6%) were farmers, and 38(21.2%) respectively were retirees.

Table 2; Demographic Variables of Respondents

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
male	72	40.2	40.2	40.2	
female	107	59.8	59.8	100.0	
Total	179	100.0	100.0		

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25	37	20.7	20.7	20.7
	26-35	35	19.6	19.6	40.2
	36-50	34	19.0	19.0	59.2
	51-above	73	40.8	40.8	100.0
	Total	179	100.0	100.0	

Marita status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	married	73	40.8	40.8	40.8
	widowed	35	19.6	19.6	60.3
	single	71	39.7	39.7	100.0
	Total	179	100.0	100.0	

Religion					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Christian	106	59.2	59.2	59.2
	Muslim	73	40.8	40.8	100.0
	Total	179	100.0	100.0	

Occupation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	farmer	35	19.6	19.6	19.6
	civil servant	71	39.7	39.7	59.2
	business	35	19.6	19.6	78.8
	retiree	38	21.2	21.2	100.0
	Total	179	100.0	100.0	

Table explanation summary (3-8)

The mean and standard deviation of each of the questions is reported in Table 3-8

Fidelity (Table 3) showed a mean range of 3.62 to 4.58 (SD=1.006 ± 0.740.9). Competence reported a mean range of 3.04 to 4.60 (SD =0.492 ± 1.660) as shown in (Table 4). The mean response for confidentiality was 2.75-4.80 (SD= 0.398±1.822) presented in (Table5). Honesty reported mean response of 3.18 to 5.18 (SD= 0.984 ± 1.463) reported in (Table 6).

Contentment had mean scores of 3.82 to 5.18 (SD=0.410 ± 1.463). Health outcome had mean scores of 4.39- 4.79(SD=0.450 ±0.492) presented in (Tables 7 and 8) respectively, except for confidentiality which recorded mean values of 2.75 -2.37 in two of the dimensions; all other values had higher than the cut-off mean value of 3.0 indicating that patient's contentment with clinicians trust attributes is rated higher and positive. The above mean scores mean that when patients trust clinicians, this quality brings contentment to service users.

Table 3; Survey response regarding clinician trust attributes, fidelity.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
F1;Doctors care about my health	179	4	5	4.58	.495
F2;Doctor is the kind who will fight hard to get me treatment	179	3	5	4.00	.627
F3;Sometimes my doctor about my convenience than my medical needs.	179	2	5	3.62	1.006

F4;My doctor do not care more about research than my best interest	179	3	5	3.81	.740
F5;Doctor only thinks of what is best for me	179	4	5	4.39	.488
F6;Doctor would not prescribe the wrong medication for me	179	4	5	4.58	.495
F7;He acknowledges my concerns	179	4	5	4.79	.406
Valid N (listwise)	179				

Source: work on bases of research results Fidelity

(Table 3) showed mean range 3.62 to 4.58 and Std 1.006 to 0.740.

Table 4; Survey response regarding clinician trust attributes, competence.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
C1;Sometimes I worry that doctor medical decisions are wrong	179	1	5	3.04	1.660
C2;Doctor would never prescribe wrong medications	179	4	5	4.60	.491
C3;Doctor has better medical skills	179	4	5	4.40	.492
C4; Doctor dose not pat full attention to what I tell him	179	2	5	4.01	1.091
C5Doctor will be able to figure out my health problems	179	4	5	4.41	.493
C6;Medical skills are not as good as they should be	179	1.0	5.0	3.838	1.4501
C7; Doctor have better medical skills than other doctors	179	4	5	4.60	.492
Valid N (listwise)	179				

Source: work on bases of research results.

Table 8; Competence reported mean range of (3.04 to 4.60) std =0.492 – 1.660.

Table 5; Survey response regarding clinician trust attributes, confidentiality.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
CF1;Doctor use his best skill and effort on my behalf	179	2	5	3.16	1.464
CF2;I'm worried doctor may share my information	179	1	5	2.75	1.822
CF3;My diagnosis is private to my doctor	179	1	5	2.37	1.495
CF4; I prefer to get second opinion	179	4	5	4.80	.398
Valid N (listwise)	179				

Source: work on bases of research results. The mean response for confidentiality was 2.75-4.80 and Std 0.398-1.822.

Table 6; Survey response regarding clinician trust attributes, Honesty.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
H1; My doctor is totally honest	179	4	5	4.79	.410
H2; My doctor sometimes pretend	179	4	5	4.59	.493
H3; My doctor will not mislead me	179	1	5	3.82	1.463
H4; My doctor is very sincere and straightforward	179	2	5	3.82	.980
H5; My doctor explain diagnosis honestly	179	4	5	4.59	.493
H6; I could tell doctor anything about my self	179	4	5	4.40	.491
H7; I trust my doctor judgement	179	4	7	5.18	.984
Valid N (listwise)	179				

Source: work on bases of research result. Honesty reported mean response of 3.18 to 5.18 and std of 0.984 to 1.463.

Table 7; Survey response regarding effect of clinicians trust attributes on Contentment

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Co1; I trust my doctor decision about my treatment	179	4	5	4.79	.410
Co2; My doctor listen with care and concern to all my problems	179	4	5	4.59	.493
Co3; Doctor always use his best skills and efforts	179	1	5	3.82	1.463
Co4; Have no worries putting my life in doctors hands	179	2	5	3.82	.980
Co5; I have complete trust in my doctor	179	4	5	4.59	.493
Co6; Doctor have good interpersonal skill	179	4	5	4.40	.491
Co7; I trust my doctor judgement	179	4	7	5.18	.984
Valid N (listwise)	179				

Source: work on bases of research results.

Contentment had mean scores of 3.82 to 5.18 and Std of 0.410 to 1.463.

Table 8; Survey response regarding effect of contentment on Health outcome

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
H12; I feel normal now	179	4	5	4.60	.492
H13; The treatment works	179	4	5	4.39	.489
H14; The symptoms are going	179	4	5	4.58	.495
H15; My health has improved	179	4	5	4.79	.410
H16; I'm taking my drugs as directed	179	4	5	4.39	.488
Valid N (listwise)	179				

Source: work on bases of research results.

Health outcome had mean scores of 4.39- 4.79 and Std 0.450 to 0.492.

RESEARCH HYPOTHESES ONE

Ho1: Clinicians' trust attributes fidelity is positively related to patients' contentment.

This question's primary aim is to determine if fidelity as clinicians' trust attribute any effect on the contentment of people has living with hypertension in the Ogoja and Obudu communities.

Independent sample t-test was the test statistics used to compare the mean response of patients about clinicians' trust attributes, Fidelity, and contentment. The mean scores of respondents greater than the cut-off scores of 3 were compared. The result showed that the mean difference between fidelity and contentment were statistically significant ($p=0.000$). Positive t-test values and confidence intervals suggest positive responses to patients' contentment. This supports the acceptance of the hypotheses that clinicians' trust attributes fidelity is positively related to patients' contentment. The results of simple regression analysis again support this position. Simple linear regression was employed at a 95% confidence interval to analyse the hypotheses further. The analysis showed significant model summary $F(1,177) = 7.262$, $p < .008$, $AdjR^2 = 0.034$, R^2 change = 0.039. The analysis shows that clinicians' trust attributes Fidelity has positively affected patients' contentment. ($\beta = 0.199$, $t = 18.00$, 2.695 , $p < .001$). Hence hypotheses one is accepted.

Table; 9

Standardized linear regression showing effect of clinician trust attributes Fidelity on patients contentment

Model	R	R Square	Adjusted R Std. Error of the Change Statistics						
			Square	Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.199 ^a	.039	.034	1.843	.039	7.262	1	177	.008

a. Predictors: (Constant), Fidelity

Table 9a

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B				Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF	
1	(Constant)	28.334	1.574		18.006	<.001	25.229	31.440			
	Fidelity	.142	.053	.199	2.695	.008	.038	.246	1.000	1.000	

a. Dependent Variable: Contentment

Hypotheses two

H02: Hypotheses two aim to determine if clinicians' trust attributes and competence affect patients' contentment.

Independent sample t-test statistics were used to compare the mean response of patients on competence with that of contentment. The mean scores were greater than the cut-off scores of 3. Were compared with the mean response of less than 3. (See table) it shows that the mean difference between clinicians' trust attributes competence and patients' contentment were statistically significant ($p=0.000$) with positive t-test value and confidence interval suggestive of positive response to patients' contentment. This finding supports the acceptance of hypotheses that clinicians' trust attributes competence is positively related to patients' contentment. The positive result is further supported by simple linear regression analysis employed at 95% confidence intervals. The analysis showed a significant model summary. $F(1, 177) = 2.831$, $p < .009$, $AdjR^2 = 0.010$, R^2 change = 0.016, the analysis shows that clinicians' trust attributes competence positively affected patients' contentment ($B = -0.125$, $t = 34.217$, -1.683 , $p < .001$). Hence hypotheses two is accepted.

Table 10

Standardized linear regression showing effect of clinician trust attributes competence on patients' contentment

Model Summary^b

Model	R	R Square	Std. Error of the Change Statistics						
			Adjusted R Square	Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.125 ^a	.016	.010	1.866	.016	2.831	1	177	.094

a. Predictors: (Constant), competence

Table 10a

Coefficients²

Model		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B				Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF	
1	(Constant)	34.225	1.000		34.217	<.001	32.251	36.199			
	competence	-.058	.034	-.125	-1.683	.094	-.125	.010	1.000	1.000	

a. Dependent Variable: Contentment

Hypotheses three

H03: Hypotheses three, which seeks to find if clinician trust attributes confidentiality positively relates to patients' contentment.

Independent sample t-test statistics were used to compare the mean scores response of patients on confidentiality with that of contentment.

The scores are more significant than the cut-off scores of 3. Were compared with a mean response of less than 3. It showed that the mean difference between clinicians' trust attributes, confidentiality, and contentment was statistically significant ($p=0.000$), with positive et-test value and confidence intervals suggestive of positive response to patients' contentment. This finding supports the acceptance of hypotheses that clinicians' trust attributes confidentiality is positively related to patients' contentment. This was further confirmed with multiple linear regression employed at a 95% confidence interval. The analysis showed model summary (1,177) = 86.997, $P<.001$, AdjR2=0.326, R2 change 0.330. The analysis shows that clinician trust attributes confidentiality positively affected patients' contentment ($\beta = 0.5744$, $t = -79.864$, 9.327, $p<.001$). Hence hypotheses are accepted.

Table 11

Standardized linear regression showing effect of clinician trust attributes confidentiality on patients' contentment

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	R Square Change	F Change	df1	df2	Sig. F Change
1	.574 ^a	.330	.326	1.540		.330	86.997	1	177	<.001

a. Predictors: (Constant), confidentiality

Table 11a

Coefficients ^a										
Model		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	29.309	.367		79.864	<.001	28.584	30.033		
	confidentiality	.248	.027	.574	9.327	<.001	.196	.301	1.000	1.000

a. Dependent Variable: Contentment

Hypotheses four

The model summary $F(1, 177) = 71.231$, $p<.001$, AdjR2 = .283, R2 change = 0.287, analysis showed that clinician trust attributes Honesty had a positive effect on patients' contentment ($\beta = -536$, $t=43.394$, -8.440, $p<.001$), indicating that hypotheses four is accepted

Table 12

Standardized linear regression showing effect of clinician trust attributes Honesty on patients' contentment

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	R Square Change	F Change	df1	df2	Sig. F Change
1	.536 ^a	.287	.283	1.588		.287	71.231	1	177	<.001

a. Predictors: (Constant), Honesty

b. Dependent Variable: Contentment

Table 12a

Coefficients ^a										
Model		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	40.340	.930		43.394	<.001	38.506	42.175		
	Honesty	-.250	.030	-.536	-8.440	<.001	-.308	-.191	1.000	1.000

a. Dependent Variable: Contentment

Hypotheses five H05: Contentment is positively related to positive health outcome.

This hypothesis aims to determine if patients' contentment is related to positive health outcomes.

Independent sample t-test statistics compared mean scores response of contentment with health outcome.

The mean scores greater than cut-off scores of 3 were compared with the mean responses less than. It showed that the mean difference between contentment and health outcome was statistically significant ($p=0.000$) with a positive t -test, value and confidence interval suggesting a positive response to a patient's health outcome. This finding supports the acceptance of the hypothesis that contentment is positively related to positive health outcomes.

Results of multiple linear regression, which was employed at a 95% confidence interval, show the significant model fit $F(1,177)165.936$, $p<.001$, $AdjR^2=0.481$, R^2 change =0.484. the analysis shows that patients' contentment positively affected a patient's health outcome ($B=0.696$, $t=8.083$, 12.882 , $p<.001$); hence the hypothesis is accepted.

Table 13

Standardized linear regression showing effect of clinician trust attributes on patients' contentment

Model Summary ^b				Std. Error of the Change Statistics					
Model	R	R Square	Adjusted R Square	Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.696 ^a	.484	.481	1.351	.484	165.936	1	177	<.001

a. Predictors: (Constant), Health outcome

Table 13a

		Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B				Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF	
1	(Constant)	12.569	1.555		8.083	<.001	9.500	15.638			
	Health outcome	.879	.068	.696	12.882	<.001	.744	1.014	1.000	1.000	

a. Dependent Variable: Contentment

Discussion

Hypotheses One tried to determine if clinicians' trust attributes fidelity affects the contentment of people living with hypertension in their communities. The result of the analysis indicates that there is a significant effect of clinicians' trust attribute fidelity on patients' contentment. Patients value doctors who adhere to treatment programs for the patients; patients also monitor clinicians' interventions on them and are pretty pleased to know that doctors are delivering competent, evidence-based interventions. This finding is consistent with LeBlanc, Wang, Wyatt et al. (2015), who, in their study, which evaluated intervention choice between encounter decision and clinician-shared decision-making on osteoporosis treatment, found a positive relationship to the use of osteoporosis choice compared with FRAX only and to usual care. Patients had improved knowledge and understanding of fracture risk and risk reduction with bisphosphonates. This study though not carried out in Nigeria or patients with hypertension, has relevance to clinicians' attributes fidelity as it represents evidence that clinicians are monitoring interventions on the patients to see that treatment adheres to the design program and is evidence-based practice. Secondly, in an exploratory clinical study, Wickremasinghe, John, George and Vogel (2019) revealed a significant relationship that patients using technology standards had better management of blood glucose effectiveness and efficiency with their clinicians than with standard care only. Patients also preferred using standard care with technology solutions instead of standard care alone. Technology was seen to assist the ability to provide higher value patient-centred care, assisting in systematic monitoring of glucose levels, which was helpful to physicians involved. This study also represents clinicians' trust attributes fidelity as treatment was based on monitoring interventions on the patient, evidence-based, competence and skills of physicians' intervention.

Similarly, Possemato, Johnson, Barrie et al. (2022) found that clinician-supported post-traumatic stress disorder (CS-PTSD) Coach treatment had a positive relationship than Primary care-mental Health Integration -Treatment as Usual (PCMHI-TAU) in reducing post-traumatic stress (PTSD) severity. Coach participants who continue to have problematic (PTSD) symptoms post-treatment were more likely to engage in two mental health treatment sessions than (TAU) participants. Coach participants engaged in 74% more intervention sessions and reported higher satisfaction than (TAU) participants. This also represents clinician attributes fidelity as is premised on evidence-based practice, monitor of intervention, a program of treatment, and clinicians' competence and skills.

Hypotheses two was tested to determine if clinicians' trust attributes competence was related to the contentment of people living with hypertension in Ogoja and Obudu in cross river state. Independent t -test statistics show a statistically significant relationship between clinician trust attributes, competence, and patient contentment. Secondly, linear regression analysis also shows a positive and significant relation between trust attribute competence and patient contentment. This is consistent with

Rajak, Pandey, Shah and Malla (2018) who found behavioural and communication competence of clinicians having the highest degree of influence on the level of patients' contentment. Similarly, Jalil, Zakar, Zakria and Fisher (2017), in their study of patients' physician interaction as an indicator of physicians' competence, found a significant association between patients' contentment with dimensions of clinicians' competence, technical expertise and communication. These findings imply that patients expect clinicians to exhibit knowledge and skills in clinical communication, investigation, diagnosis

and treatment of patients under their care. It also represents clinicians' attitudes and behaviour, especially when managing uncertainties during clinical encounters. Secondly, it represents clinicians' maturity in person and experience and ability to take control and leadership in clinical settings. Furthermore, the synthesis of information, teamwork and prevention of mistakes are all that clinicians trust attributes competence represents. Finally, in the context of people living with hypertension in Ogoja and Obudu, clinicians' trust attributes competence means clinicians make patients care their first concern, listen, respect, protect and give information, especially as it concerns their hypertension management, attitude and behavioural ways to stay healthy.

The third hypotheses was tested to determine if clinicians' trust attributes confidentiality are related to the contentment of people living with hypertension in Ogoja and Obudu. The finding and results of the independent t-test show a statistically significant relationship ($P=0.000$). The linear regression analysis shows clinician trust attributes confidentiality positively related to patients' contentment. This is consistent with Anhang, Tyovenda and Kwaghgbah's (2022) findings, who reported that clinician trust attributes confidentiality positively relate to the satisfaction of people living with immunosuppressed conditions at the federal medical centre Makurdi. In the same vein, Shan, Li, Ding et al. (2016) found that trust attributes confidentiality is positively related to patient contentment in China. Similarly, Cahyati (2021), in his investigation of patients' trust in Indonesia, found trust attribute confidentiality positively related to patients' contentment. Other studies with similar findings include but not the list Asan, Yu and Crotty (2021); Adriansysh et al. et al. (2021); Ai et al. et al. 2022; Nyaga et al. (2021). The above finding means that patients expect clinicians to understand that confidentiality is an essential trust bond between them. The failure of clinicians to maintain confidentiality in patient relationships may lead to patients feeling reluctant to reveal private, sensitive, and beneficial information that the clinician needs to know to treat the patient appropriately. Physicians' diagnosis of some significant illnesses is based on information patients provide in confidence. *Confidentiality* is a pre-requisite which allows patients to communicate symptoms, experiences, beliefs, concerns and general expectations about their illness and treatment. It is part of patients' dignity, privacy, and autonomy, extending even after their death. Confidentiality is fundamental to medical ethics; it is the patient's right and the doctor's duty. The positive finding of this result shows that people living with hypertension at Ogoja and Obudu take the impact of clinician trust attribute confidentiality very seriously to their general contentment.

The fourth hypotheses tried to determine if clinician trust attributes honesty is related to the contentment of people living with hypertension. The findings and result of linear regression analysis suggest that clinician trust attributes honesty is positively and significantly related to patients' contentment, indicating acceptance of hypotheses. This finding aligned with Dyer, Owen and Robinson (2016), who found honesty positively related to patients' contentment. Other studies such as Mechanic (1996), Thom et al. (2004) and Huynh and Dicke-Bohman (2020) have consistently found honesty, integrity and empathic nature positively related to patients contentment and predicting of cardiovascular disease and cost of care. This result means that patients have a high value on clinicians' honesty. Patients expect to be fully informed about their care and care options, which include discussing the risks and benefits of every intervention option. Patients expect clinicians to tell them clearly, and accurately about risks built into the treatment options. Clinicians need to check that patients understand the information given to them. Honesty means when a clinician realises something has gone wrong or is about to go wrong, the patient must be spoken within the context of the circumstance. When things go, the wrong patient must be told what happened, what can be done to deal with the harm caused and what will be done to prevent someone else from being harmed. The honesty of clinicians means the patients should be given the information they want or need to know with respect, compassion, empathy and dignity. The positive result of our findings signifies the importance patients living with hypertension attach to clinicians' honesty.

The fifth hypotheses was tested to determine if patients' contentment with clinicians' trust attributes impacts patients' health outcomes. The t-test result shows a moderate positive relationship between patients' contentment and positive health outcome. Regression analysis results suggest that patients' contentment is positively related to positive health outcomes, supporting the fifth hypothesis's acceptance. This finding is consistent with similar findings by Baumbach, Frese, Harter et al. (2023) in Germany, Hamburg-Eppendorf study, which found that satisfaction with physician-related care was positively associated with quality of life and health outcome. Results show that patients who are content with the care given to them reported positive health outcomes. Secondly, Dubina, O'Neill and Feldman (2009) reported that patients' contentment is positively associated with the care outcome. Similarly, Orioki, Tabakin and Mills (2018), in their study of 'Grab a Seat,' found that patient satisfaction had a high correlation with health outcomes. Furthermore, Chandra, Ward and Mohammadnezhad (2019) reported that patients' contentment positively influenced health outcomes. In the context of people living with hypertension, as depicted in the result, patients' health outcomes represent how they really feel in their own words regarding their health status. The outcome usually represents reported health behaviour and experience from the care provided. Health outcome is the reflection of the voice of the patients, which could include physical, mental, and emotional health. This is vital in healthcare as it assists in evaluating the care provided and facilitates rational decision-making based on evidence.

Conclusion

This study has come to the following conclusion based on the presented evidence, clinicians' trust attributes (Fidelity, competence, confidentiality, honesty) are significant factors in the contentment of people living with hypertension in Ogoja and Obudu, Nigeria. Clinician trust attributes are fundamental to treatment adherence, keeping to appointment dates and client behaviour modification. Contentment significantly influences the positive health outcome of people living with hypertension in cross-river state.

The contribution to knowledge of this study is predicated on the fact that it has helped to provide in-depth insight, deepening understanding of the importance of clinician trust attributes and how it can affect treatment outcomes of people living with hypertension in urban and semi-urban communities.

This study bridged the gap in the literature on clinicians' trust attributes (e.g., fidelity, competence, confidentiality, honesty and patient contentment).

Based on the above findings, the following recommendations are put forward.

Recommendations

- a. Increase Research on how traditional bureaucratic structure in rural communities can be used as platforms for chronic disease prevention and management.
- b. The use of chieftaincy institutions in rural communities for education, implementation of treatment and monitoring of chronic diseases, especially hypertension.
- c. Research on chronic systemic diseases should shift from inpatient and outpatient departments of hospitals to communities where early diagnosis can be made thus increasing chances of recovery and reduction in stigmatisation.

Limitation of the study.

The study was none experimental, and Research was financially constrained. Increasing the Sample size may give a different results, preventing study from drawing a causal relationship and generalisation

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References

- Adeloye, D., Basquill, C., Aderemi, A. V., Thompson, J. Y., & Obi, F. A. (2015). An estimate of the prevalence of hypertension in Nigeria: a systematic review and meta-analysis. *Journal of hypertension*, 33(2), 230-242.
- Adriansyah, A. A., Makki, M., Setianto, B., Sa'adah, N., Lestari, I., & Arindis, P. A. M. (2021). PATIENT SATISFACTION ANALYSIS BASED ON SERVICE QUALITY ASSESSMENT AND TRUST IN HEALTH FACILITIES. *Journal Riset Kesehatan*, 10(2), 105-113
- Adeloye, D., Owolabi, E. O., Ojji, D. B., Auta, A., Dewan, M. T., Olanrewaju, T. O., ... & Harhay, M. O. (2021). Prevalence, awareness, treatment, and control of hypertension in Nigeria in 1995 and 2020: A systematic analysis of current evidence. *The Journal of clinical hypertension*, 23(5), 963-977.
- Anderson, L. A., & Dedrick, R. F. (1990). Development of the Trust in Physician scale: a measure to assess interpersonal trust in patient-physician relationships. *Psychological reports*, 67(3_suppl), 1091-1100.
- Ai, Y., Rahman, M. K., Newaz, M. S., Gazi, M. A. I., Rahaman, M. A., Mamun, A. A., & Chen, X. (2022). Determinants of patients' satisfaction and trust toward healthcare service environment in general practice clinics. *Frontiers in Psychology*, 13, 856750.
- Asan, O., Yu, Z., & Crotty, B. H. (2021). How clinician-patient communication affects trust in health information sources: Temporal trends from a national cross-sectional survey. *Plos one*, 16(2), e0247583.
- Anhange, S. T., Tyovenda, K. R., & Kwaghbah, A. T. (2022). Doctor-Patient Communication, Patient Trust and Patient Satisfaction among People Living with HIV/AIDS in Federal Medical Centre Makurdi, Nigeria. *NIGERIAN JOURNAL OF CLINICAL PSYCHOLOGY*, 12(1), 40-55.
- Anderson, L. A., & Dedrick, R. F. (1990). Development of the Trust in Physician scale: a measure to assess interpersonal trust in patient-physician relationships. *Psychological reports*, 67(3_suppl), 1091-1100.
- Birkhäuser, J., Gaab, J., Kossowsky, J., Hasler, S., Krummenacher, P., Werner, C., & Gerger, H. (2017). Trust in the health care professional and health outcome: A meta-analysis. *PloS one*, 12(2), e0170988.
- Baumbach L, Frese M, Härter M, König HH, Hajek A. Patients Satisfied with Care Report Better Quality of Life and Self-Rated Health-Cross-Sectional Findings Based on Hospital Quality Data. *Healthcare (Basel)*. 2023 Mar 6;11(5):775. doi: 10.3390/healthcare11050775. PMID: 36900780; PMCID: PMC10001220.

- Calnan, M. W., & Sanford, E. (2004). Public trust in health care: the system or the doctor? *BMJ Quality & Safety*, 13(2), 92-97.
- Cella, D., Hahn, E. A., Jensen, S. E., Butt, Z., Nowinski, C. J., Rothrock, N., & Lohr, K. N. (2015). Patient-reported outcomes in performance measurement
- Chandra, S., Ward, P., & Mohammad Nezhad, M. (2019). Factors associated with patient satisfaction in outpatient department of Suva Sub-divisional Health Center, Fiji, 2018: a mixed method study. *Frontiers in public health*, 7, 183.
- Cope, E. L., Khan, M., & Millender, S. (2022). Trust in Health Care: Insights from Ongoing Research. *Health Affairs Forefront*.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. ("Cronbach, L. J. (1951). Coefficient alpha and the internal structure of ...") *psychometrika*, 16(3), 297-334
- Chen X, Li L, Zhou T, Li Z. Prevalence of hypertension in rural areas of China: a meta-analysis of published studies. *PLoS One*. 2014;9(12): e115462.
- Cahyati, P. (2021). The model of patient satisfaction and trust: a study at BPJS patient. ("(PDF) THE MODEL OF PATIENT SATISFACTION AND TRUST: A ... - ResearchGate") *Dynasty International Journal of Education Management and Social Science*, 2(3), 513-526.
- Dyer, T. A., Owens, J., & Robinson, P. G. (2016). The acceptability of healthcare: from satisfaction to trust. *Community dental health*, 33(4), 242-251.
- Ekwunife, O. I., & Aguwa, C. N. (2011). A meta-analysis of prevalence rate of hypertension in Nigerian populations. *J Public Health Epidemiol*, 3(13), 604-7.
- Gilson, L. (2003). Trust and the development of health care as a social institution. *Social science & medicine*, 56(7), 1453-1468.
- Goold, S. D. (2002). Trust, distrust, and trustworthiness: Lessons from the field. *Journal of general internal medicine*, 17(1), 79-81
- Greene, J., & Ramos, C. (2021). A mixed methods examination of health care provider behaviors that build patients' trust. *Patient Education and Counseling*, 104(5), 1222-1228.
- Hair, J., Black, W., Babin, B., Anderson, R. and Tatham, R. (2006) *Multivariate Data Analysis*. 6th Edition, Pearson Prentice Hall, Upper Saddle River.
- Hellen, M. A., De Haes, H. C., & Smets, E. M. (2011). Cancer patients' trust in their physician—a review. *Psycho-oncology*, 20(3), 227-241
- Huynh, H. P., & Dicke-Bohmann, A. (2020). Humble doctors, healthy patients? Exploring the relationships between clinician humility and patient satisfaction, trust, and health status. *Patient Education and Counseling*, 103(1), 173-179.
- Jneid S, Jabbour H, Hajj A, Sarkis A, Licha H, Hallit S, et al. Quality of life and its association with treatment satisfaction, adherence to medication, and Trust in Physician among Patients with Hypertension: a cross-sectional designed study. *J Cardiovasc Pharmacol Ther*. 2018;23(6):532–42.
- Krot, K., & Radwanska, I. (2017). PATIENTS' TRUST IN PHYSICIANTS AS AN ANTECEDENT OF SATISFACTION WITH MEDICAL SERVICES. *Economics & Sociology*, 10(2), 207.
- Khademnezhad, S. (2006). View of patients referred to general practitioners and specialist outside the university about the doctor patient relationship (Dissertation). Tabriz: Tabriz University of Medical Sciences, 95.
- Kundu, Supratim and Rajan, C.R. Sundara, Word of Mouth: A Literature Review (Oct 24, 2016). Available at SSRN: <https://ssrn.com/abstract=2973022> or <http://dx.doi.org/10.2139/ssrn.2973022>
- Leisen, B., & Hyman, M. R. (2001). An improved scale for assessing patients' trust in their physician. *Health marketing quarterly*, 19(1), 23-42.
- Mechanic, D., & Schlesinger, M. (1996). The impact of managed care on patients' trust in medical care and their physicians. *Jama*, 275(21), 1693-1697.
- Meghan I Dubina, Jenna L O'Neill & Steven R Feldman (2009) Effect of patient satisfaction on outcomes of care, *Expert Review of Pharmacoeconomics & Outcomes Research*, 9:5, 393-395, DOI: 10.1586/erp.09.45
- Nelms, E., Wang, L., Pennell, M., Wewers, M. E., Seiber, E., Adolph, M. D., ... & Ferketich, A. K. (2014). Trust in physicians among rural Medicaid-enrolled smokers. *The Journal of Rural Health*, 30(2), 214-220.
- Nyaga, R. G., Hildenbrand, G. M., Mattson, M., Collins, B. W., & Lumala, M. (2021). Does perceived privacy influence patient satisfaction among college students? a comparative study of students at a Kenyan university and at a large American midwestern university. *International Journal of Communication*, 15, 20.

- Ogah, O. S., Okpechi, I., Chukwuonye, I. I., Akinyemi, J. O., Onwubere, B. J., Falase, A. O., ... & Sliwa, K. (2012). Blood pressure, prevalence of hypertension and hypertension related complications in Nigerian Africans: A review. *World journal of cardiology*, 4(12), 327.
- Platonova, E. A., Kennedy, K. N., & Shewchuk, R. M. (2008). Understanding patient satisfaction, trust, and loyalty to primary care physicians. *Medical Care Research and Review*, 65(6), 696-712.
- Roncoroni, A. J. (2000). Medical ethics in the world's market. Hippocratic fidelity or enterprise fidelity. *Medicina*, 60(1), 82-88.
- Rhodes, R., & Strain, J. J. (2000). Trust and transforming medical institutions. *Cambridge Quarterly of Healthcare Ethics*, 9(2), 205-217.
- Schliemann, J., Ritter, P., Salloch, S., Uhl, W., & Vollmann, J. (2013). 'One also needs a bit of trust in the doctor...': a qualitative interview study with pancreatic cancer patients about their perceptions and views on information and treatment decision-making. *Annals of Oncology*, 24(9), 2444-2449
- Shan, L., Li, Y., Ding, D., Wu, Q., Liu, C., Jiao, M., ... & Ren, J. (2016). Patient satisfaction with hospital inpatient care: effects of trust, medical insurance and perceived quality of care. *PloS one*, 11(10), e0164366.
- Thom, D. H., Hall, M. A., & Pawlson, L. G. (2004). Measuring patients' trust in physicians when assessing quality of care. *Health affairs*, 23(4), 124-132.
- van de Vijver, S., Akinyi, H., Oti, S., Olajide, A., Agyemang, C., Aboderin, I., & Kyobutungi, C. (2014). Status report on hypertension in Africa-Consultative review for the 6th Session of the African Union Conference of Ministers of Health on NCD's. *Pan African Medical Journal*, 16(1).
- World health organization 2018
- Williams, B., Poulter, N. R., Brown, M. J., Davis, M., McInnes, G. T., Potter, J. F., ... & McG Thom, S. (2004). Guidelines for management of hypertension: report of the fourth working party of the British Hypertension Society, 2004—BHS IV. *Journal of human hypertension*, 18(3), 139-185.
- Yang, T., & Wu, Y. (2018). A study on the influence of patient participation on patient trust-based on sample survey in China. *Frontiers in Psychology*, 9, 2189.
- Zolkefli, Y. (2018). The ethics of truth-telling in health-care settings. *The Malaysian journal of medical sciences: MJMS*, 25(3), 135